AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A device for making electric energy storage assemblies (En), the device comprising multiple feed means (100, 200, 300) for feeding sheet structures, means (400, 410) for laminating the sheet structures received from the various feed means, winder means (610) for winding the resulting laminate, and control means for controlling continuously and in controlled synchronism the feed means, the laminator means, and the winder means, wherein the feed means comprises motor driven unwinders (104, 204, 304) and associated motors for sequentially controlling the unwinders in a brake mode.

2. (Currently Amended) ~~A~~ The device according to claim 1, characterized by the fact that it includes laminator means (C, 400, 410) formed by a pair of presser rollers (400, 410).

3. (Currently Amended) The~~A~~ device according to ~~either preceding~~ claim 1, ~~characterized by the fact that it~~ comprisinges a mandrel (610) of generally timezone-shaped section.

4. (Currently Amended) The~~A~~ device according to ~~any preceding~~ claim 1, wherein ~~characterized by the fact that~~ the mandrel (610) is of length greater than the width of the laminates for winding.

5. (Currently Amended) The~~A~~ device according to ~~any preceding~~ claim 1, ~~characterized by the fact that it~~ includinges a mandrel (610) presenting a section that is not circularly symmetrical, and ~~that the device~~ includinges means for rotating the mandrel (610) at a controlled non-constant angular speed so as to obtain a constant linear speed for feeding said sheets.

6. (Currently Amended) The~~A~~ device according to ~~any preceding~~ claim 1, ~~characterized by the fact that~~ the angular speed of rotation of the winder mandrel (610) presents two peaks per revolution.

7. (Currently Amended) The~~A~~ device according to ~~any preceding~~ claim 1, wherein ~~characterized by the fact that~~ the speed of rotation of the winder mandrel (610) is determined by the relationship:

$$\omega=V/(2.\pi.r)$$

in which:

V represents the desired constant linear speed for the laminate; and

r represents a winding radius itself calculated on the basis of the following relationship:

$$r=r_0+(F.n.e)$$

in which:

r_0 represents the radius of the mandrel (610) when bare;

F represents a correction factor;

n represents the number of the current turn; and

e represents the thickness of the laminate wound on the mandrel (610).

8. (Currently Amended) The~~A~~ device according to ~~any preceding~~ claim 1, wherein~~characterized by the fact that~~ a presser roller (620) is associated with the winder mandrel (610).

9. (Currently Amended) The~~A~~ device according to ~~the preceding~~ claim 8, wherein~~characterized by the fact that~~ the presser roller (620) is carried by rotary equipment (624) mounted to rotate about an axis (625) that is eccentric relative to the axis of the presser roller (620).

10. (Currently Amended) The~~A~~ device according to ~~the preceding~~ claim 9, wherein ~~characterized by the fact that~~ the rotary equipment (624) that carries the presser roller (620) is rotated at an angular speed that is twice that of the mandrel (610).

11. (Currently Amended) The~~A~~ device according to claim 10, ~~characterized by the fact that~~ wherein the rotary equipment (624) is mechanically driven by rotation of the mandrel (610) with a velocity ratio of 2.

12. (Currently Amended) The~~A~~ device according to ~~any preceding~~ claim 1, wherein~~characterized by the fact that~~ the mandrel (610) is made up of two adjacent jaws (612, 614).

13. (Currently Amended) The~~A~~ device according to claim 12, ~~characterized by the fact tha~~whereint the two jaws (612, 614) are symmetrical and their plane of symmetry contains the axis of rotation (611) of the mandrel (610).

14. (Currently Amended) The~~A~~ device according to claim 12~~ or claim 13~~, ~~characterized by the fact that it~~ includinges drive means suitable for moving the two jaws (612, 614) making up the mandrel (610) into an open relative position.

15. (Currently Amended) The~~A~~ device according to ~~any one of~~ claims 12~~ to 14~~, ~~characterized by the fact that it~~ includinges drive means suitable for moving the two jaws (612, 614) making up the mandrel (610) relative to each other parallel to their interface plane.

16. (Currently Amended) The~~A~~ device according to ~~any preceding~~ claim 1, ~~characterized by the fact that it~~ includinges a press (710) suitable for finishing off flattening the windings formed on the mandrel (610) after said windings have been extracted to a position separate from the mandrel.

17. (Currently Amended) ~~A~~ The device according to ~~any preceding~~ claim 1, ~~characterized by the fact that it~~ includinges at least three sheet feed means (104, 204, 304) and laminator means (C, 400, 410) for laminating sheets coming from the three feed means.

18. (Currently Amended) ~~A~~ The device according to ~~any preceding~~ claim 1, ~~characterized by the fact that it~~ includinges three sheet feed means (104, 204, 304) serving respectively to feed: an assembly (90) comprising a cathode (60) and an electrolyte (50); an assembly (40) comprising an anode sheet (40); and an assembly (92) comprising a collector (10), a cathode (20), and an

electrolyte (30).

19. (Currently Amended) ~~A~~ The device according to ~~any preceding~~ claim 1, ~~characterized by the fact that it~~ includinges heater means (130, 330) disposed upstream from said laminator means (C, 400, 410).

20. (Currently Amended) ~~A~~ The device according to ~~the preceding~~ claim 19, whereine~~characterized by the fact that~~ the heater means comprise ovens (130, 330).

21. (Currently Amended) ~~A~~ The device according to claim 19, ~~characterized by the fact that~~wherein the heater means comprise heater rollers.

22. (Currently Amended) ~~A~~ The device according to ~~any one of~~ claims ~~19 to 21~~, whereine~~characterized by the fact that~~ the heater means comprise means suitable for sequentially cooling treated sheets.

23. (Currently Amended) ~~A~~ The device according to ~~any preceding~~ claim 1, ~~characterized by the fact that it~~ includinges means (104, 304) suitable for feeding at least one assembly (90, 92) comprising at least one sheet covered by at least one protective film.

24. (Currently Amended) ~~A~~ The device according to ~~any preceding~~ claim 1, ~~characterized by the fact that it~~ includinges film-remover means (122, 322, 220, 225, 541, 543) suitable for removing at least one film placed on an assembly.

25. (Currently Amended) ~~A~~ The device according to ~~the preceding~~ claim 24, ~~characterized by the fact that~~wherein the film-remover means comprise means suitable for abruptly diverting a protective film through at least 60° relative to the assembly carrying it.

26. (Currently Amended) ~~A~~ The device according to claim 24 ~~or claim 25~~, ~~characterized by the fact that~~wherein the film-remover means comprise a dull edge (232) close to the plane of

displacement of a film to be removed, and upstream from the point of remover, with the convex side of the edge facing downstream in the displacement direction, suitable for micro-stretching a protective film covering said sheet when the film is deflected by being pulled over the edge.

27. (Currently Amended) ~~A~~ The device according to ~~any one of~~ claims 24 ~~to 26~~, ~~characterized by the fact~~ that it includinges means suitable for adjusting the traction force exerted on the film.

28. (Currently Amended) ~~A~~ The device according to claim 24, ~~characterized by the fact that~~wherein the film-remover means comprise means for applying a jet of solvent.

29. (Currently Amended) ~~A~~ The device according to claim 24, ~~characterized by the fact that~~wherein the film-remover means comprise means for applying a jet of air to the zone where the film and the assembly from which it is being removed diverge.

30. (Currently Amended) ~~A~~ The device according to ~~any preceding~~ claim 1, ~~characterized by the fact that it~~ includinges applicator means (262, 264) suitable for applying at least one protective film on at least one outside face of an anode sheet (40).

31. (Currently Amended) ~~A~~ The device according to ~~the preceding~~ claim 1, ~~characterized by the fact that~~wherein the anode sheet (40) is a lithium sheet.

32. (Currently Amended) ~~A~~ The device according to ~~any preceding~~ claim 1, ~~characterized by the fact that~~ it includinges means (240) suitable for applying a film (84) to the periphery of an anode reel (40) over a winding arc of not less than 90°.

33. (Currently Amended) ~~A~~ The device according to ~~any preceding~~ claim 1, ~~characterized by the fact that~~ it includinges means (220, 225) suitable for removing at least one film (84, 85) upstream from a laminator station (400, 410).

34. (Currently Amended) ~~A~~ The device according to ~~any preceding~~ claim 1, ~~characterized by the fact that~~ it includinges means (541, 543) suitable for removing at least one film (80, 83) upstream from a winder station (610).

35. (Currently Amended) ~~A~~ The device according to ~~any preceding~~ claim 1, ~~characterized by the fact that~~ it includinges means (240, 250) suitable for placing protective films (84, 85) on at least some of the sheets involved.

36. (Currently Amended) ~~A~~ The device according to ~~any preceding~~ claim 1, ~~characterized by the fact that it~~ usinges films (80, 81, 82, 83, 84, 85) covering at least some of the sheets involved and forming a drive function thereon.

37. (Currently Amended) ~~A~~ The device according to ~~any preceding~~ claim 1, ~~characterized by the fact that it~~ usinges films (80, 81, 82, 83, 84, 85) covering at least some of the sheets involved and performing an anti-stick protection function for the sheets relative to rollers on their paths.

38. (Currently Amended) ~~A~~ The device according to ~~any preceding~~ claim 1, ~~characterized by the fact that~~ it includinges means for adjusting the relative positioning of the longitudinal edges of the sheets involved.

39. (Currently Amended) ~~A~~ The device according to ~~the preceding~~ claim 38, ~~characterized by the fact that~~wherein the adjustment means comprise position sensors (140, 280, 340) and displacement means for moving the feed unwinders.

40. (Currently Amended) ~~A~~ The device according to ~~the preceding~~ claim 39, ~~characterized by the fact that~~ wherein the displacement means are adapted to pivot support plates carrying feed unwinders.

41. (Currently Amended) ~~A~~ The device according to claim 39 ~~or claim 40~~, ~~characterized by the fact that~~wherein the displacement means are adapted to pivot support plates carrying feed

unwinders about axes (102, 202, 302) that are parallel to the segments of sheet conveyed upstream from the laminator means (400, 410).

42. (Currently Amended) ~~A~~ The device according to ~~any one of~~ claims 39 ~~to 41~~, ~~characterized by the fact that~~ wherein the displacement means are adapted to pivot the support plates supporting feed unwinders about axes. (102, 202, 302) intersecting the axes of rotation of the feed unwinders (104, 204, 304) and contained in a plane halfway across the width of the feed reel.

43. (Currently Amended) ~~A~~ The device according to ~~any preceding~~ claim 1, ~~characterized by the fact that it~~ includinges sectioner means (272, 274, 552) for sectioning the sheets involved.

44. (Currently Amended) ~~A~~ The device according to ~~any preceding~~ claim 43, ~~characterized by the fact that it~~ includinges sectioner means (272, 274) for sectioning an anode sheet (40).

45. (Currently Amended) ~~A~~ The device according to ~~any preceding~~ claim 44, ~~characterized by the fact that it~~ includinges sectioner means (272, 274) for sectioning an anode sheet (40) between two films (84, 85) without breaking the films.

46. (Currently Amended) ~~A~~ The device according to ~~any one of~~ claims 43 ~~to 45~~, ~~characterized by the fact that it~~ includinges sectioner means (272, 274) for sectioning an anode sheet (40), the sectioner means being constituted by a hammer (272) and an anvil (274).

47. (Currently Amended) ~~A~~ The device according to the ~~preceding~~ claim 46, ~~characterized by the fact that~~ wherein at least one of the hammer (272) and the anvil (274) includes at least one striker edge.

48. (Currently Amended) ~~A~~ The device according to ~~any preceding~~ claim 1, ~~characterized by the fact that it~~ includinges sectioner means (272, 274) for sectioning a sheet and drive means for driving the segment situated downstream from the break in order to produce a gap in the sheet.

49. (Currently Amended) ~~A~~ The device according to ~~the preceding~~ claim 48, ~~characterized by the fact that~~wherein the sectioned sheet is the anode sheet (40).

50. (Currently Amended) ~~A~~ The device according to ~~any preceding~~ claim 1, ~~characterized by the fact that it~~ includinges sectioner means (552) for completely sectioning a laminate.

51. (Currently Amended) ~~A~~ The device according to ~~any preceding~~ claim 1, ~~characterized by the fact that it~~ includinges sectioner means (552) formed by a blade having a sharp edge with two slopes forming a convex ridge.

52. (Currently Amended) ~~A~~ The device according to ~~any preceding~~ claim 1, ~~characterized by the fact that it~~ includinges motor-driven unwinders (104, 204, 304) and winders (124, 324, 524, 548).

53. (Cancelled)

54. (Currently Amended) ~~A~~ The device according to claim 52 ~~or claim 53~~, ~~characterized by the fact that~~wherein the winders (124, 229, 324, 542, 546) are motor-driven and controlled in torque.

55. (Currently Amended) ~~A~~ The device according ~~to any one of~~ claim[[s]] 52 ~~to 54~~, ~~characterized by the fact that~~wherein the unwinders (104, 204, 304) and the winders (124, 324, 542, 546) are controlled by signals that take account of the diameter of the windings.

56. (Currently Amended) ~~A~~ The device according to ~~any preceding~~ claim 1, ~~characterized by the fact that~~ it include means for measuring the delivered length of laminate.

57. (Currently Amended) ~~A~~ The device according to ~~any preceding~~ claim 1, ~~characterized by the fact that it~~ includinges cutter means for making localized interrupted cuts in a current

collector sheet (10).

58. (Currently Amended) ~~A~~ The device according to ~~the preceding~~ claim 57, ~~characterized by the fact that~~ wherein the cutter means for localized cutting of a current collector sheet comprise an oscillating blade (524) placed facing a first face of the collector, associated with two rollers (526, 528) placed facing the other face thereof.

59. (Currently Amended) ~~A~~ The device according to claim 57 ~~or claim 58~~, ~~characterized by the fact that~~wherein displacement of the localized cutter means (524) is controlled by the displacement of the mandrel (610).

60. (Currently Amended) ~~A~~ The device according to ~~any preceding~~ claim 1, ~~characterized by the fact that it~~ includinges heating laminator rollers (400, 410).

61. (Currently Amended) ~~A~~ The device according to ~~any preceding~~ claim 1, ~~characterized by the fact that it~~ includinges laminator rollers (400, 410) having a diameter of at least about 20 mm.

62. (Currently Amended) ~~A~~ The device according to ~~any preceding~~ claim 1, ~~characterized by the fact that it~~ comprisinges two compartments separated by a partition (900): a first compartment housing all of the means for moving the sheets and laminates involved, and a second compartment housing all of the control means.

63. (Currently Amended) ~~A~~ The device according to ~~the preceding~~ claim 62, ~~characterized by the fact that~~ wherein the compartment housing the means for ensuring displacement of the sheets is placed under a controlled atmosphere.

64. (Currently Amended) ~~A~~ The device according to ~~any preceding~~ claim 1, ~~characterized by the fact that it~~ includinges means suitable on command for retracting the sheet-treatment means in order to facilitate putting the sheets into place.

65. (Currently Amended) ~~A~~ The device ~~for making electric energy storage assemblies~~ according to ~~any preceding~~ claim 1, including a mandrel (610) adapted to wind superposed sheets in the form of a multi-sheet assembly, ~~the device being characterized by the fact that it includes~~and means (670, 680, 800) suitable on command for modifying the right section of the mandrel (610).

66. (Currently Amended) ~~A~~ The device ~~for making electric energy storage assemblies~~ according to ~~any preceding~~ claim 1, including drive means for driving a laminated sheet and means (610) for winding the laminated sheet, ~~the device being characterized in that~~ the drive means comprisinge at least one pair of drive means respectively constituting a master pair and a slave pair (532 & 534 and 400 & 410; 400 & 410 and 262 & 264), the master drive means (532 & 534; 400 & 410) being placed downstream from the slave drive means (400 & 410; 262 & 264) on the travel path of the laminated sheet, and control means for servo-controlling the slave drive means (400 & 410; 262 & 264) on the master drive means (532 & 534; 400 & 410).

67. (Currently Amended) ~~A~~ The device ~~for making energy storage assemblies~~ according to ~~any preceding~~ claim 1, ~~the device~~ comprising drive means (532, 534, 610) for driving a laminated sheet, winder means (610) for winding the laminated sheet, and cutter means (550) for sectioning the laminated sheet at the end of winding, ~~the device being characterized in that it further comprises heater~~ and means (562) for heating the laminated sheet and presser means (580) for pressing the end-of-winding end of the sheet against the surface of the wound assembly so that the winding end adheres to said surface.

68. (Currently Amended) ~~A~~ The device ~~for making electric energy storage assemblies~~ according to ~~any preceding~~ claim 1, ~~the device~~ comprising drive means for driving a laminated sheet and winder means (610) for winding the laminated sheet (10, 20, 30, 40, 50, 60), ~~the device being characterized in that it further comprises tensioner~~ and means (532, 534, 570, 610) for tensioning the laminated sheet over a segment, and moving cutter means (550) suitable for being actuated sequentially to cut the laminated sheet (10, 20, 30, 40, 50, 60) in air through the tensioned segment.

69. (Currently Amended) ~~A~~ The device ~~for making electric energy storage assemblies~~ according to ~~any preceding~~ claim 1, ~~the device being characterized in that it~~ includinges a segment (332) of duct (331) in which the sheet (XIV) extends, and means for causing a flow of hot air and a flow of cold air to circulate in alternation in said segment (332).

70. (Currently Amended) ~~A~~ The device for making a laminated sheet structure according to ~~any preceding~~ claim 1, ~~the device~~ comprising a plurality of feed means (100, 200, 300) for feeding single-layer or multilayer sheets, drive means for driving travel of the sheets, ~~and~~ means (400, 410) for superposing the sheets coming from the various feed means in order to form a laminate, ~~the device being characterized in that it includes~~and a movable support (190; 290; 390) on which at least one of the feed means (100; 200; 300) for at least one of the sheets is mounted, the movable support (190; 290; 390) being suitable for oscillating about an axis (101; 201; 301) for modifying the lateral positioning of said sheet relative to the other sheets of the laminate.

71. (Currently Amended) ~~A~~ The device ~~for making energy storage assemblies~~ according to ~~any preceding~~ claim 1, ~~the device~~ comprising feed means (100, 200, 300) for feeding single-layer or multilayer sheets (90, 40, 92), drive means (510) for causing said sheet to travel, means (C) for uniting the sheets in a laminate (96), ~~and~~ a mandrel (610) adapted to wind the sheets in the form of a multilayer winding (10, 20, 30, 40, 50, 60), ~~the device being characterized in that it includes~~ first cutter means (270) for sectioning one or more layers (40) making up the laminate (96) transversely to the laminate travel direction, and second cutter means (550) for sectioning the other layers (10, 20, 30, 50, 60) transversely to the laminate travel direction so that the layer(s) (40) sectioned by the first means (270) is/are set back relative to the other layers (10, 20, 30, 50, 60) at an end of the laminate-winding (96).

72. (Currently Amended) ~~A~~ The device according to ~~any one of~~ claims ~~1 to 71~~, ~~characterized by the fact that~~wherein at least three means constituted by the feed means, the laminator means, and the winder means are associated with respective drive means.

73. (Currently Amended) A method of making electric energy storage assemblies, the method comprising the steps of feeding multiple sheet structures (90, 40, 92) from distinct feed means (104, 204, 304), the feed means comprising motor-driven unwinders (104, 204, 304) and associated motors, laminating (400, 410) the film structures (90, 40, 92) received from the various feed means (104, 204, 304), winding (610) the resulting laminate, and continuously and with controlled synchronism controlling the feed means (104, 204, 304), the laminator means (400, 410), and the winder means (610) and sequentially controlling the unwinders in a brake mode by the associated motors.

74. (Currently Amended) ~~A~~ The method according to ~~the preceding~~ claim 73, ~~characterized by the fact that~~wherein the laminating and winding steps are performed continuously.

75. (Currently Amended) ~~A~~ The ~~device~~ method according to claim 73 ~~or claim 74~~, ~~characterized by the fact that~~wherein at least one of the feed means is itself formed by means for in situ lamination of at least two initially separate sheets.

76. (Currently Amended) ~~A~~ The ~~device~~ method according to ~~any one of~~ claim[[s]] 73 ~~to 75~~ for fabricating an energy storage cell, constituted by a flat winding with minimized internal stresses formed of a superposed assembly of sheets comprising at least one current collector (10), a cathode (20) based on filled polymers, a solid electrolyte (30) based on filled polymers, a metal anode (40), preferably based on lithium, these various items being made in the form of thin sheets, the method comprising the steps of laminating said sheets together and then winding and preforming them on an almost flat mandrel (610) having a section that is timezone-shaped, and finally pressing and flattening the winding on a low-thrust press.

77. (Original) An energy storage cell obtained by implementing the method in accordance with claim 76, constituted by a flat winding with minimized internal stresses, the cell being characterized in that it is formed by a superposed assembly of sheets comprising at least a current collector (10), a cathode (20) based on filled polymers, a solid electrolyte (30) based on filled polymers, a metal anode (40), preferably based on lithium, these various items being made in the

form of thin sheets that are laminated together and then wound and preformed on an almost flat mandrel (610) having a timezone-shaped section, and finally pressed and flattened on a low-thrust press.